

Whetstone Potential Wilderness Area Evaluation [PW-05-03-D3-001]

Area Overview

Size and Location: The Whetstone Potential Wilderness Area encompasses 19,213 acres. This area is located in the Whetstone Mountain Range, which is part of the Sierra Vista Ranger District of the Coronado National Forest in southeastern Arizona (see Map 7 at the end of this document). The Whetstone PWA is overlapped by 14,579 acres of the Whetstone Inventoried Roadless Area, comprising 76 percent of the PWA.

Vicinity, Surroundings and Access: The Whetstone Potential Wilderness Area (PWA) is located approximately 40 miles southeast of Tucson, Arizona and approximately 10 miles southwest of Benson, Arizona within the Sierra Vista Ranger District in the middle of the Whetstone Mountains.

There are two incorporated communities (Benson and Sierra Vista) and several small unincorporated communities (Whetstone, Huachuca, Sonoita and Vail) surrounding the Whetstone Mountains and the PWA. In addition, Kartchner Caverns State Park on the east side adjoins the National Forest.

Interstate 10 connects the Tucson metropolitan area to State Highway 83 near Vail and State Highway 90 near Benson. State Highway 82 connects to State Highway 83 at Sonoita and State Highway 90 at Whetstone. Interstate 10 and State Highways 82, 83 and 90 are within close proximity to the Whetstone Mountains and the PWA.

From the east, Dry Canyon Road (NFS Road 4014) is the only permanent legal motorized access route into the National Forest and the Whetstone Mountains. Dry Canyon Road provides motorized access from State Highway 90 across State Trust lands to the proclaimed national forest boundary. Dry Canyon Road continues into Dry Canyon on National Forest System (NFS) lands to a point approximately 1¼ mile from the PWA.

On the east side of the Whetstone Mountains, French Joe Canyon Road (NFS Road 4018) provides motorized access from State Highway 90 into French Joe Canyon approximately 1 mile from the PWA.

Also on the east side (from Kartchner Caverns State Park), Middle Canyon Road (NFS Road 208) provides motorized access into Middle Canyon and the South Fork of Middle Canyon to approximately ¾ mile from the PWA. There is nonmotorized trail access from Kartchner Caverns State Park to Guindani Trail (NFS Trail 398) and Cottonwood Saddle Trail (NFS Trail 386). Cottonwood Saddle Trail passes approximately ½ mile east of the PWA from Guindani Canyon to Cottonwood Saddle and connects to Cottonwood Canyon Road (NFS Road 4012) at the north end of the Whetstone Mountains. Kartchner Caverns State Park requires an entrance fee to access the National Forest roads and trails.

Post Ranch Road (NFS Road 4596) provides motorized access from State Highway 90 into the National Forest on the northeast side of the Whetstone Mountains to Cottonwood Canyon Road (NFS Road 4012). Cottonwood Canyon Road provides motorized access to Cottonwood Saddle Trail.

J-6 Ranch Road provides motorized access from Interstate 10 to the proclaimed national forest boundary at the north end of the Whetstone Mountains. J-6 Ranch Road becomes Williams Road (NFS Road 212) at the proclaimed national forest boundary and continues to an area approximately ¾ mile north of Upper Wakefield Canyon and the PWA.

East Mescal Road (NFS Road 369) provides motorized access to the south end of the Whetstone Mountains from State Highway 82 to Dry Canyon Road and Mine Canyon Road (NFS Road 778). East Mescal Road also provides motorized access to the Mormon Tank Road (NFS Road 4843). Mormon Tank Road provides motorized access that requires a high-clearance four-wheel-drive vehicle to Mine Canyon Road that ends approximately $\frac{3}{4}$ mile from the PWA.

Also from State Highway 82 on the south side of the Whetstone Mountains is Sands West Camp Road (NFS Road 779/4590) that provides motorized access from to the proclaimed national forest boundary and Coal Mine Road (NFS Road 4589). Coal Mine Road provides access to the Bear Springs area approximately $\frac{3}{4}$ mile west of the PWA and into Apache Canyon to a point approximately 1 mile west of the PWA.

There is both motorized road and nonmotorized trail access to areas near the potential wilderness area. However, there is no motorized road or nonmotorized trail access to or into the PWA. In addition, although there appears to be adequate motorized and trail access to the NFS lands near the PWA, other than Dry Canyon Road on the east side of the PWA, there is no documented right-of-way for the existing road system across the State Trust and private lands adjacent to the proclaimed national forest boundary. Public access to the north end of the Whetstone Mountains from French Joe Canyon to Apache Canyon is currently blocked. Permanent legal public access to the NFS lands and the PWA in the Whetstone Mountains will continue to be issue.

Boundaries: The boundary of this PWA was established based on natural features, such as ridgelines and high points, in the Whetstone Mountain Range. A small portion of the northern boundary runs parallel to Williams Road (NFS Road 212A).

Geography and Topography: Covering an area of 19,213 acres, the Whetstone Potential Wilderness Area straddles the crest of the Whetstone Range. It extends from Wakefield Canyon in the north to Granite Peak in the south. The topography of this PWA rises from 5,160 feet above sea level in Montosa Canyon along its western flank to a maximum elevation of 7,711 feet at Apache Peak near the center of the range. Located along Guindani Wash approximately three miles east of the Whetstone PWA, Kartchner Caverns is a world-class cavern system. It was formed within the Mississippian Escabrosa Limestone, which occurs in a down-dropped fault block along the eastern flank of the Whetstone mountain range. This PWA is entirely located within the Whetstone Mountains Unit of the Sierra Vista Ranger District, Coronado National Forest.

Typical of the Mexican Highlands Subprovince of the Southern Basin and Range Province of southeastern Arizona, the north-south elongated structural uplift that forms the Whetstone Range is bounded on the east by the San Pedro River Valley and on the west by the Cienega Creek Basin. This range is a relatively undeformed, moderately southwest-tilted structural block, which exposes the entire sequence of rocks ranging from Precambrian-age granite and Pinal Schist exposed along its northern and northeastern flanks through lower Cretaceous sediments and silica-rich volcanics (i.e., rhyolite) of the Bisbee Group along its southern and southwestern flanks. The Whetstone PWA is primarily underlain by the intervening Paleozoic section, which forms spectacular cliff faces along the northern and eastern flanks of the range, clearly illustrating classic layer-cake bedding structure of the various sedimentary units. A major west-northwest-trending range front fault juxtaposes lower Cretaceous sediments of the Bisbee Group against Precambrian granite along the northern edge of this range. Sedimentary rocks exposed along the east flank of this range have been cut by small late-Cretaceous granitic stocks in French Joe Canyon and at Granite Peak.

Appearance and Vegetation: Due to steep topography, the vegetation consists largely of unmodified pinyon, juniper and evergreen oak woodland communities. Species include Madrean evergreen oaks such

as Arizona white oak (*Quercus arizonica*), Emory oak (*Quercus emoryi*), gray oak (*Quercus grisea*), Mexican blue oak (*Quercus oblongifolia*) and Toumey oak (*Quercus toumeyi*). Other tree species [including pinyon pines (*Pinus cembroides* and *Pinus monophylla*), Chihuahua pine (*Pinus leiophylla*), Arizona cypress (*Cupressus arizonica*) and alligator juniper (*Juniperus deppeana*)] and interior chaparral species [including manzanita spp. (*Arctostaphylos* spp.), crucifixion thorn (*Canotia holacantha*), desert ceanothus (*Ceanothus greggii*), mountain mahogany (*Cercocarpus montanus*), little-leaved mountain mahogany (*Cercocarpus intricatus*), antelope bushes (*Purshia* spp.), silktassles (*Garrya* spp.), Stansbury cliffrose (*Purshia stansburiana*), shrub live oak (*Quercus turbinella*) and sumacs (*Rhus* spp.)] may be present but do not codominate. The ground cover is dominated by warm-season grasses such as threeawns (*Aristida* spp.), blue grama (*Bouteloua gracilis*), sideoats grama (*Bouteloua curtipendula*), Rothrock grama (*Bouteloua rothrockii*), Arizona cottontop (*Digitaria californica*), plains lovegrass (*Eragrostis intermedia*), curly-mesquite (*Hilaria belangeri*), green sprangletop (*Leptochloa dubia*), muhly grasses (*Muhlenbergia* spp.) or Texas bluestem (*Schizachyrium cirratum*). Overstory canopy is less than 20 percent in about 60 percent of the community. Historically, some areas near canyon bottoms were logged to provide wood for nearby mines, but second growth has matured.

Current Uses: Visitors use this PWA for a variety of recreational activities. The four trails running through the area are used for hiking, horseback riding, and mountain biking. Three roads that end at the PWA boundary are used for motorized touring and dispersed uses such as camping and hunting. As a result of this activity on adjacent roads, visitors often venture into the PWA. There are two existing roads within the PWA that are currently in use; one is recommended for conversion to a nonmotorized trail and the other recommended for decommissioning. Topography is rugged, so there is very limited cross-country travel through the PWA. There are five grazing allotments within the Whetstone Potential Wilderness Area. All of these allotments are active and valid permitted uses. This PWA is within Fire Management 1 (FMU 1). Fire management units divide the landscape into smaller geographic areas to describe the differences in management strategies based on safety considerations, as well as physical, biological and social characteristics. FMU 1 indicates fire adapted vegetation communities. Current fire management includes a full range of responses, from aggressive initial attack to managing natural ignitions to achieve desired forest plan objectives when risk is within acceptable limits.

Capability

Naturalness

The ruggedness of the Whetstone Potential Wilderness Area has allowed it to retain a semiprimitive setting. Diversity of vegetation within the PWA boundary ranges from Madrean Evergreen woodland with several small stands of ponderosa pine (*Pinus ponderosa*) at the highest elevations. There are no known nonnative species within the area. The Whetstone Mountains are noted for having a high diversity of vegetation types, wildlife, plants and insects. The area is habitat for several Forest Service sensitive species and three federally listed species, the Mexican spotted owl and the lesser long-nosed bat. The area of the Whetstone Mountains does not have perennial rivers or streams and there are no known water quality issues. Night skies can be clearly seen and light pollution is not evident.

Undeveloped

The Whetstone Potential Wilderness Area has had a limited history of human use. The steep, rugged terrain of the area has restricted human settlement and land use. Currently the potential wilderness area is experiencing use by illegal border crossers passing through as evidenced by the creation of trails and trash piles.

Opportunities for Solitude or Primitive and Unconfined Recreation

A person could find a short-term experience of solitude, serenity, self-reliance, hiking, camping and hunting within this potential wilderness area. The small size of the area limits opportunities for long back-packing trips. The steep and rugged terrain creates an opportunity for challenging recreation. Illegal borders crossers passing within the boundary of the potential wilderness area may interference with the primitive experience.

Special Features

The unique rock formations and spectacular views are important wilderness characteristics of the Whetstone Potential Wilderness Area. The area is home to several unique species that make it attractive for environmental research and education.

Manageability

The Whetstone Potential Wilderness Area is located in the higher elevations of the Whetstone Mountains away from roads. There is no immediately adjacent land that is not managed by the Forest Service. However, the current use of the area by undocumented aliens and the U.S. Border Patrol in the lower elevations of the Whetstone Mountains creates challenges in managing it for wilderness characteristics. There are no identified boundary changes that would enhance the area's wilderness character.

The Whetstone Potential Wilderness Area overall was rated as **high** for Capability (for individual scores, see appendix E).

Availability

In the Whetstone Potential Wilderness Area the current recreational uses and tourism could continue if the area was designated as wilderness. There are three threatened or endangered species that may be located in this PWA and may require habitat restoration and/or monitoring, which could impact the availability of the PWA. Watersheds within the area are properly functioning and there are no water impoundments or need at this time to install impoundments. There are no ecosystem restoration activities currently planned for the area. The area is committed through contracts and permits for livestock grazing. This current authorization does not conflict with wilderness management or detract from wilderness qualities. However, one activity that may conflict with wilderness management is the need for site-specific aquatic restoration activities. According to the FireScape Analysis, the area will receive a single treatment across the landscape within a 15 to 20 year period to achieve restoration goals. There is no potential for timber extraction. There has been mining activity in the past, but at this time there is little or no potential for extraction of locatable minerals. There are currently no cultural resources that will be affected by wilderness management, although there has been some suggestions for potential protection projects that may impact future management efforts. The Whetstone Potential Wilderness Area is composed entirely of National Forest System lands, as is the adjacent land. The closest private land is approximately a half mile from the PWA boundary and could impact the wilderness character of the area.

The Whetstone Potential Wilderness Area overall was rated as **high** for Availability (for individual scores, see appendix F).

Need

Wilderness and Nonwilderness Lands in the Vicinity

The Coronado National Forest has eight wilderness areas comprising 339,553 acres or 19 percent of the Forest. Nationally, Wilderness comprises 19 percent of National Forest System lands and within the Southwestern Region only 13 percent of these NFS lands are wilderness. The Coronado National Forest currently equals the national average of National Forest System land as wilderness and exceeds the regional average.

The Forest Service evaluated comparable public lands within a 100-mile radius of the potential wilderness area, which is assumed to be approximately a day's drive. Within 100 miles of the Whetstone PWA there are 20 designated wilderness areas totaling about 516,000 acres (Table 39).

Table 39. Designated wilderness within 100 miles of the Whetstone Potential Wilderness Area

Wilderness Area	Acres
Aravaipa Canyon Wilderness	19,700
Baboquivari Peak Wilderness	2,040
Chiricahua National Monument Wilderness	10,290
Chiricahua Wilderness	87,700
Coyote Mountains Wilderness	5,100
Dos Cabezas Mountains Wilderness	11,700
Fishhooks Wilderness	10,500
Galiuro Wilderness	76,317
Miller Peak Wilderness	20,228
Mount Wrightson Wilderness	25,260
Needle's Eye Wilderness	8,760
North Santa Teresa Wilderness	5,800
Pajarita Wilderness	7,553
Peloncillo Mountains Wilderness	19,440
Pusch Ridge Wilderness	56,933
Redfield Canyon Wilderness	6,600
Rincon Mountain Wilderness	38,590
Saguaro Wilderness	70,905
Santa Teresa Wilderness	26,780
White Canyon Wilderness	5,790
TOTAL	515,986

There are significant opportunities for unconfined outdoor recreation experiences outside of the designated wilderness areas within 100 miles of the Coronado National Forest, including over 4.1 million acres of Federal lands. Nonwilderness lands that provide a wilderness-like setting include primitive and semiprimitive nonmotorized areas, inventoried roadless areas, wilderness study Areas, BLM National Conservation Areas, and USFWS National Wildlife Refuges. The combined acres of nonwilderness lands in the vicinity are double the amount of designated wilderness within 100 miles of the Coronado National Forest. Therefore, all potential wilderness areas received a low need rating for this factor.

Visitor Pressure

Increased demand for additional wilderness in both Arizona and New Mexico should be anticipated based on population growth during the period of 1990 to 2000, which exceeded the national growth rate. Assuming Arizona continues to grow at a rate greatly outpacing the national rate (predicted to be about 3 times the national rate), the number of visits to existing wilderness will continue to increase, and Arizona in particular could benefit from additional wilderness. Public demand increases with proximity to the Phoenix and Tucson population centers, which collectively represent 86 percent of the state's population. Substantial consideration should therefore be given to potential wilderness areas within 100 miles of those cities, in an effort to provide for the growing demand. Some additional public demand for wilderness in the Southwestern Region will occur from the influx of people moving to communities in the vicinity of the National Forests. In terms of geographic distribution of wilderness across all Federal lands, the Southwestern Region is underrepresented with 12 percent of Federal land in wilderness acres, as compared with 17 percent nationally. Desirability of the scenic mountainous settings available in the rural communities within and adjacent to national forests in the Southwestern Region will attract new residents and retirees, further contributing to a growth in wilderness visitation. All of the PWAs were rated high for this factor based on high current use on existing wilderness areas, surrounding population increases, and high demand for additional wilderness on the Coronado National Forest.

Primitive Sanctuary for Plants and Wildlife

As part of the forest plan revision process, the Coronado National Forest has developed a list of species that warrant consideration in the population viability evaluation. This species list includes 255 threatened, endangered, sensitive, and highly vulnerable species (G1-G2 or T1-T2) that are known to occur on the Coronado National Forest. Appendix I shows the total number of these species that are known to occur in each potential wilderness area, provided the Forest Service has adequate information on habitat distribution. Although none of these species require a primitive environment to survive, all listed species would benefit from reduced disturbance. The combined number of threatened, endangered, sensitive, and highly vulnerable species on this PWA rates in the low range (less than 30 species) for this factor.

Capacity of Established Wildernesses

There are eight existing wilderness areas and three wilderness study areas (WSA) on the Coronado National Forest. The wilderness areas and WSAs range in size from 7,400 acres to 87,700 acres. Accessibility by motor vehicles ranges from easily accessible to remote, hard-to-access wilderness. Trail systems within wilderness areas range from extensive trail systems to very minimal systems. Visitor use is considered high in the wilderness areas adjacent to the Tucson metropolitan area, and includes the Pusch Ridge and Mount Wrightson Wildernesses. Encounters with other wilderness visitors in both areas are high. For these two areas there are limited management opportunities to accommodate additional use. The Coronado National Forest also has wilderness areas that are remote, difficult to access, and where visitor use is considered low. Here, additional demand could be accommodated without management changes.

Wilderness Areas with Similar Landform and Vegetation

Consideration was given to how the landform and ecological condition of the Whetstone Potential Wilderness Area might be broadly similar to existing wilderness areas within the National Wilderness Preservation System. All designated wilderness areas in Arizona and New Mexico were compared using ecological sections and vegetation communities.

The Whetstone Potential Wilderness Area is in the Basin and Range Section of the Chihuahuan Semi-Desert Province (Section 321A, McNab and Avers 1994). The Basin and Range Section encompasses 24,270 square miles, of which 749 square miles (approximately 3 percent) occur in 20 designated wilderness areas.

The Whetstone PWA includes 5 of the 16 underrepresented vegetation communities in the Southwestern Region of the Forest Service (see Table 40). Of these five vegetation communities, the Whetstone PWA would only contribute to an additional 0.1 percent to wilderness in the following vegetation types: Interior Chaparral and Madrean Encinal Woodland. The vegetation communities in this PWA consist of 47.00 percent regionally underrepresented vegetation types, therefore the PWA rates in the low range (less than 50 percent) for this factor.

Table 40. Southwestern Region underrepresented vegetation communities found in the Whetstone Potential Wilderness Area (PWA)

Underrepresented Vegetation Communities	Acres within Whetstone PWA	Percent of Whetstone PWA	Percent Addition of Whetstone PWA to Wilderness
Interior Chaparral	1,803	2.1	0.1
Madrean Encinal Woodland	4,751	44.5	0.1
Madrean Pine Oak Woodland	1,047	0.1	0.0
Mixed Conifer Forest	45	0.0	0.0
Riparian Areas	162	0.3	0.0
Grand Total	7,808	47.0%	0.2%

The Whetstone Potential Wilderness Area overall was rated as **medium** for Need (for individual scores, see appendix G).

Public Input

Public involvement and input is an essential component of the potential wilderness evaluation process. Beginning in March 2010, six open-house events were held in geographic locations across the Forest's service area to present the draft revised forest plan and plan-related documents to the public. The initial evaluation of the Whetstone Potential Wilderness Area was shared to elucidate public input on the need for new wilderness areas. Approximately 200 individuals attended, representing 54 groups and organizations. Each open house was structured to provide flexibility to attendees, in that they did not need to commit a specific or large block of time to participate. However, many people stayed for two hours or more, engaging in discussions with the resource specialists and other participants.

Initial public feedback on the Whetstone PWA encouraged consideration of the area for wilderness designation based on its high degree of naturalness. Those supporting a wilderness recommendation argued that the area should be rated higher for wilderness capability. Additional public input regarding the Whetstone PWA requested a reevaluation of the boundary line to extend further downslope and within 100 feet of existing roads to include more wilderness-quality areas. The updated version of the Whetstone Potential Wilderness Evaluation Report will be shared with the public for feedback in the summer of 2013, in conjunction with the 90-day public comment period for the revised forest plan. Additional public feedback will be considered and incorporated into the reports, as appropriate.